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## Notes on the genus *Stichophthalma* (Lepidoptera, Nymphalidae), with a description of a new species from Indo-China

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**Abstract** The diagnostic characters and geographical variations of seven Indo-Chinese species of the genus *Stichophthalma* are treated: *godfreyi*, *cambodia*, *howqua*, *louisa*, *sparta*, *fruhstorferi* and *uemurai* sp. nov., which is described from southern Vietnam. *S. cambodia editha* is synonymized with the nominotypical subspecies of *cambodia*. The male genitalia of these seven species are also figured.

**Key words** Amathusiinae, *Stichophthalma*, geographical variation, synonymy, new species, male genitalia, Indo-China.

### Introduction

The genus *Stichophthalma* belonging to the subfamily Amathusiinae contains relatively large species, and is distributed from Sikkim, Bhutan through China to Taiwan. In the Indo-China area including Myanmar and the Malay Peninsula, a relatively abundant number of species has been included in this genus. In Thailand, it is well investigated by Pinratana (1983). However, little information is available from Laos and Vietnam due to the difficulty of free access for collecting trips or investigations to those countries. On the other hand, natural lowland forests have been rapidly destroyed in those countries. Therefore, forest-living species such as *Stichophthalma* have also decreased. Quick and large-scale faunal surveys are needed in those countries.

In this paper, I describe diagnostic characters and geographical variations of six species of *Stichophthalma*, namely *godfreyi*, *cambodia*, *howqua*, *louisa*, *sparta* and *fruhstorferi*, and give a proposal of a new synonymy and a description of a new species.

The following abbreviations are used in the collection data. N: Nishimura collection; U: Uemura collection; I: Inayoshi collection; BMNH: collection of the Natural History Museum, London.

The rows of wing spots are abbreviated from A to D, and the shape of spots is separated into 7 types (a–g) as shown in Fig. 1.

### 1. *Stichophthalma godfreyi* Rothschild, 1916 (Figs 2–4)

*Stichophthalma godfreyi* Rothschild, 1916, *Ann. Mag. nat. Hist.* (8) **17**: 474.

*Stichophthalma godfreyi*: Talbot, 1947, *Fauna Br. India* (Butterflies) **2** (Edn 2): 425.

*Stichophthalma godfreyi*: Pinratana, 1983, *Butterflies Thailand* **2**: 51, pl. 32, fig. 11.

*Stichophthalma godfreyi*: D'Abrera, 1984, *Butterflies Oriental Region* **2**: 496, fig.

Diagnosis and variation. This species shows relatively small variation in color. Upper-

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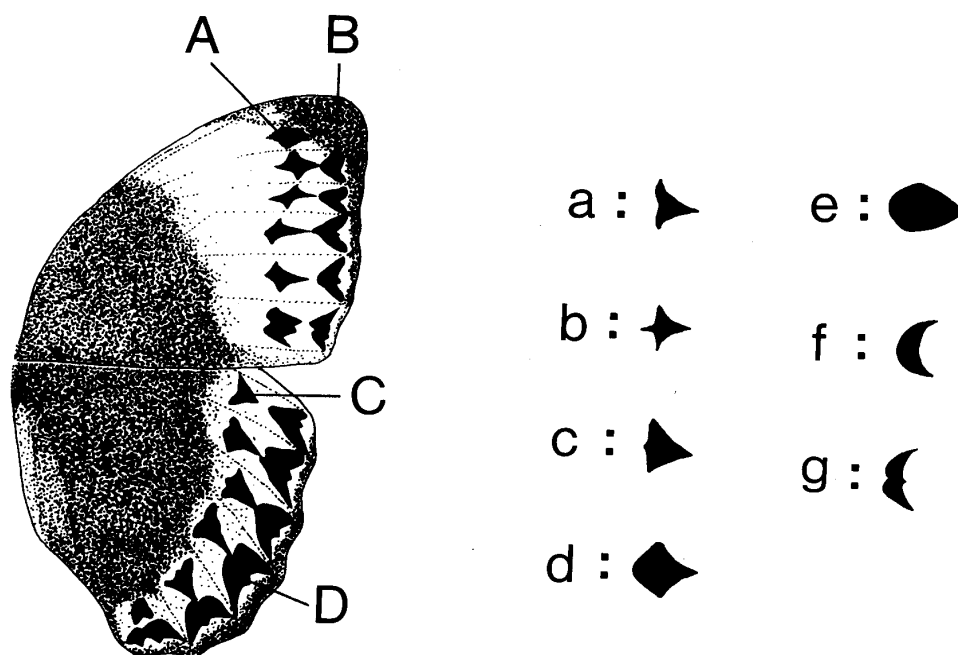


Fig. 1. Abbreviation of the rows of wing spots (A-D) and the shape of spot (a-g).

side: Basal half of fore- and hindwings shows dark bluish gray, and varies slightly from very bluish to purplish. Apical half has 3 rows of whitish spots of varying sizes. Underside: Ground color of fore- and hindwings varies from light to dark.

Forewing length. ♂, 70–75 mm, ♀, 75–80 mm.

Remarks. This species is known to have the nominotypical subspecies only, and is distributed from Tenasserim, southern Myanmar, to the mountainous region of Takuapa, Thailand. In the upper reaches of the Khwae Noi river, North West of Kanchanaburi, Thailand, this species and *S. louisa louisa* are sympatrically distributed. This species is also coexistent with *S. louisa ranohngensis* at the Khao Phoa Tha mountain, Thailand. The type material is shown in Fig. 51.

Distribution. Southern Myanmar, Mergui Island, Southern Thailand.

Specimens examined. THAILAND — Phang Nga Province, Khao Phoa Tha: 1 ♀, iii. 1990 (N); 12 ♂ 4, iv. 1990 (N); 3 ♂, iii. 1992 (N). Near Kamburi [Kanchanaburi]: Holotype ♂ (Fig. 51), labeled “near Kanburi, Siam”, 8. v. 1914 (BMNH).

## 2. *Stichophthalma cambodia* (Hewitson, [1862]) (Figs 5–8)

*Thaumantis cambodia* Hewitson, [1862], *Illust. exot. Butterflies* 3: [70], pl. [35], fig. 2.

*Stichophthalma cambodia editha* Riley & Godfrey, 1921, *J. nat. Hist. Soc. Siam* 4: 173, pl. 4, fig. 5. **Syn.**

**n.**

*Stichophthalma cambodia aditha* (sic): Pinratana, 1983, *Butterflies Thailand* 2: 51, pl. 31, fig. 10.

*Stichophthalma cambodia*: D'Abrera, 1984, *Butterflies Oriental Region* 2: 496, figs.

Diagnosis and variation. Upperside: Basal half of fore- and hindwings bluish gray, covered with brownish pubescences. The coloration varies from light to dark. The black band of the outer margin is weakly developed. The shape of spots of row A is a or b, row B is f,

and of space 1b is usually f or g in a few specimens. Spots of row C are c excluding the space 6 being a. The shape of spots of row D is f or g. The size of those spots varies, and row A is connected with row B and row C with row D in a few specimens. A spot of space 6 of row A on the forewing is large, and often transversely long. This tendency is more distinct in the female. Underside: Ground color of fore- and hindwings varies from light to dark. A median cream yellow band varies in width.

Forewing length. ♂, 48–55 m, ♀, 63–66 mm.

Remarks. Two subspecies, the nominotypical one from Campuchea and *editha* from Thailand, have been known up to present. According to the original description, *S. cambodia editha* is separated from the nominotypical subspecies as follows: 1) upperside of fore- and hindwings with a distinct bluish white portion at outer margin; those portions slightly wider than long; 2) row A consisting of b-type spots; 3) interspaces between half circular spots of submarginal and black outer margin strongly bluish-white; 4) female with a large V-shaped spot at space 6 of forewing row A and its spot connected with a black portion of the outer margin; 5) underside of fore- and hindwings relatively strongly bluish-white; 6) large circular spots of underside with a relatively thin black margin and a light gray outer margin. After examinations of many specimens from the Chanthaburi district in Thailand, these characters mentioned above have been found to have relatively large variations, and some specimens show almost the same coloration as the nominotypical subspecies. Therefore, I concluded that *S. cambodia editha* (Fig. 53) is a synonym of the nominotypical subspecies (Fig. 52).

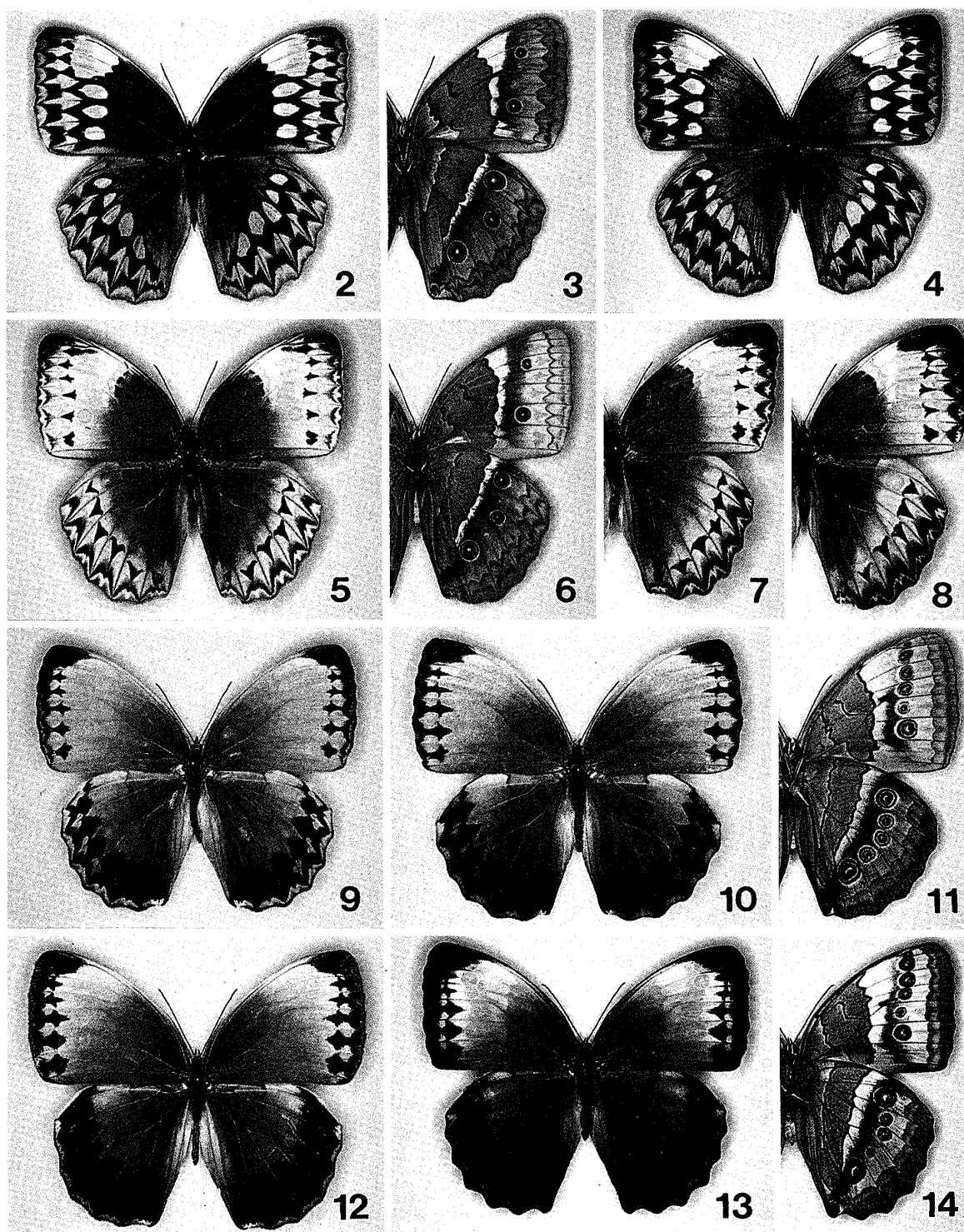
This species is distributed in south eastern Thailand and the Kravanh mountains, south eastern Campuchea. In Khao Soi Dao of Thailand this species and *S. louisa siamensis* are sympatrically distributed.

Distribution. Southeastern Thailand, West Campuchea.

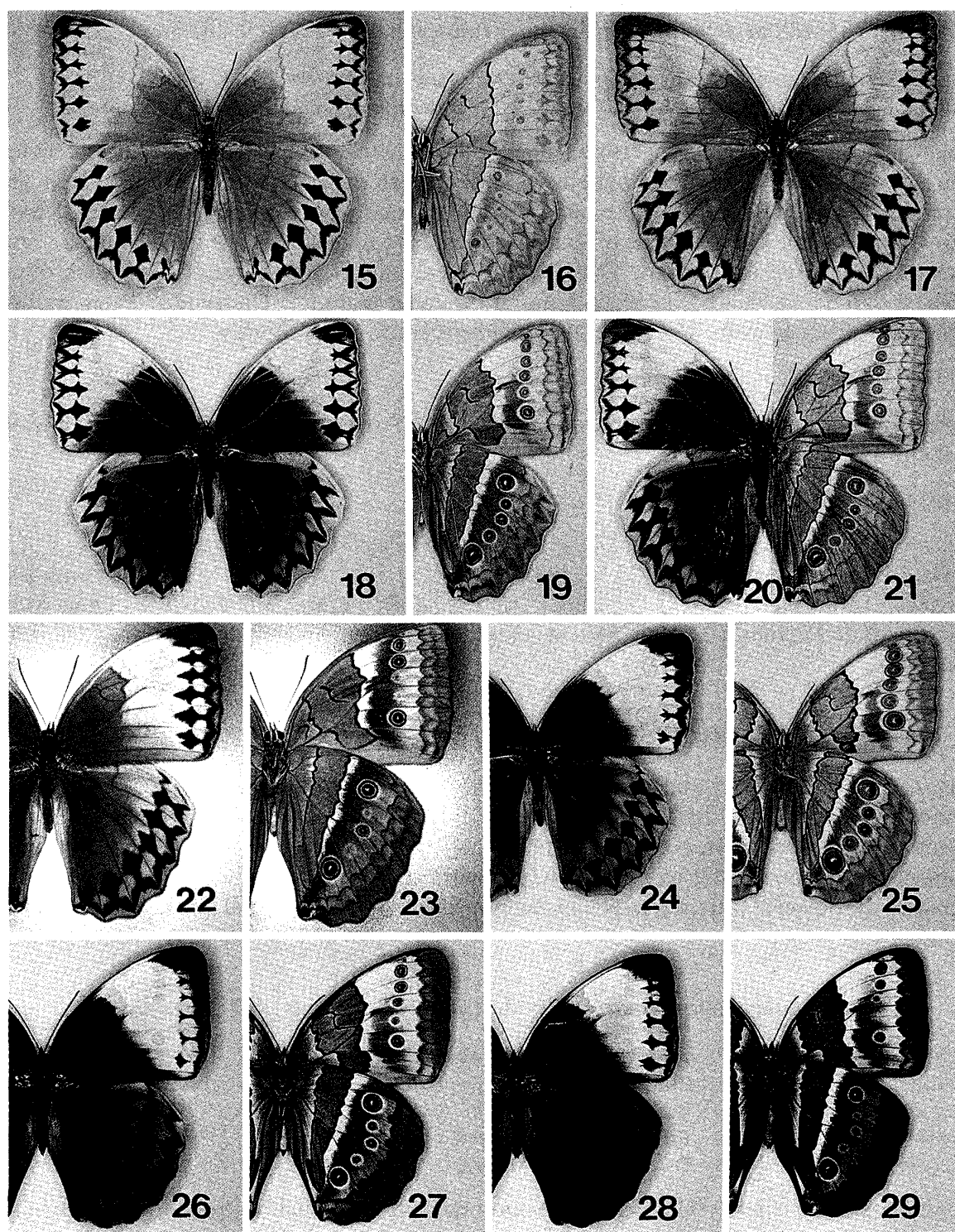
Specimens examined. Campuchea: 2 ♀ (Fig. 52, holotype of *cambodia*, ♀, labeled “Cambodia, Rh. 6016”) (BMNH). THAILAND—Chanthaburi Province, Khao Sababu: 1 ♂ 1 ♀ (Fig. 53, syntype of *editha*, labeled “Khao Sabaru, near Chantaburi, S. E. Siam”), iii. 1916 (BMNH). Chanthaburi Province, Khao Soi Dao: 4 ♂, 17. iii. 1989 (N); 9 ♂ 8 ♀, vi. 1992 (N).

### 3. *Stichophthalma howqua* Westwood, 1851

Two subspecies of *howqua*, *tonkiniana* Fruhstorfer, 1901 and *iapetus* Brooks, 1949, were described from Indo-China. I examined syntypes of *tonkiniana* (Figs 54, 55). The type locality of this subspecies is Than Moi (Tonkin), and its morphology agrees well with specimens from Cuc Phuong, Tam Dao, Northern Vietnam. On the other hand, the subspecies *iapetus* which was originally collected from Chapa, Cochin China (recte Tonkin) is problematic. In his book, D'Abrera (1984) figured a photograph of a male of *iapetus*, and stated that the female of *iapetus* resembles the male of *tonkiniana*. However, I did not examine such material. In the BMNH collection, there are types of *S. howqua miyana* Fruhstorfer, 1913 and var. *suffusa* Leech, 1892, both from central and western China, and voucher specimens Qingchengshan, Sichuan by Koiwaya (1989). Those all resemble *tonkiniana*. The specimen figured by D'Abrera rather closely resembles *howqua formosana* from Taiwan. Long series from various localities in China is needed for a proper study.



Figs 2-14. *Stichophthalma* spp. 2-3. *S. godfreyi*, ♂, Khao Poa Tha, Thailand (3: underside). 4. *S. godfreyi*, ♀, Khao Poa Tha, Thailand. 5-7. *S. cambodia*, ♂, Khao Soi Dao, Thailand (6: underside). 8. *S. cambodia*, ♀, Khao Soi Dao, Thailand. 9-11. *S. howqua tonkiniana*, ♂, Tam Dao, Vietnam (11: underside). 12-14. *S. howqua tonkiniana*, ♀, Tam Dao, Vietnam (14: underside).



Figs 15-29. *Stichophthalma* spp. 15-16. *S. louisa louisa*, ♂, Umphang, Thailand (16: underside). 17. *S. louisa louisa*, ♀, Umphang, Thailand. 18-19. *S. louisa ranohngensis*, ♂, Khao Poa Tha, Thailand (19: underside). 20-21. *S. louisa ranohngensis*, ♀, Khao Poa Tha, Thailand (21: underside). 22-23. *S. louisa siamensis*, ♂, Khao Soi Dao, Thailand (22: underside). 24-29. *S. louisa* spp., ♂, Wang Chin, Thailand (25, 27, 29: underside).

**3-1. *Stichophthalma howqua tonkiniana* Fruhstorfer, 1901 (Figs 9–14)**

*Stichophthalma howqua tonkiniana* Fruhstorfer, 1901, *Societas ent.* **16**: 97.

*Stichophthalma howqua tonkiniana*: D'Abrera, 1984, *Butterflies Oriental Region 2*: 498, fig.

Diagnosis and variation. Upperside: Basal half of wing is castaneous in ground color. This ground color varies from light to dark. Apical half of wing is whitish in a few specimens. The black band of the outer margin is usually developed. The shape of spots of row A varies, but usually those of spaces 1b and 2 are d, of spaces 3–5 are b in male; spot of row C is d or e; spot of row D is f, and rows C and D are connected with each other. A few specimens have a broad black band at the outer margin. Underside: Wing ground color varies from light to dark. A few specimens show greenish gray.

Forewing length. ♂, 59–63 mm, ♀, 63–73 mm.

Remarks. Sympatric distribution with *S. fruhstorferi* occurs in Cuc Phuong, Tam Dao, northern Vietnam.

Distribution. Northern Vietnam.

Specimens examined. VIETNAM — Ha Nam Ninh Province, Cuc Phuong: 5 ♂ 6 ♀, 13–16. vii. 1992 (N); 1 ♂ 1 ♀, 23–25. vi. 1995 (N); 12 ♂ 7 ♀, 18–21. vi. 1997 (N). Vinh Phu Province, Tam Dao: 12 ♂ 1 ♀, 18–21. vi. 1995 (N). Lang Son Province, Than Moi: Syntypes of *tonkiniana*, 1 ♂ (Fig. 54) 1 ♀ (Fig. 55), labeled “Than Moi, Tonkin”, v–vii. 1900 (BMNH).

**4. *Stichophthalma louisa* (Wood-Mason, 1877)**

This was firstly described under the genus *Thaumantis* by Wood-Mason (1877) from Taoo, Tenasserim. Later, Marshall & Nicéville (1883) transferred this species to the genus *Stichophthalma*. The taxonomic treatment of the specific range of *louisa* has not yet been established. Talbot (1947) recognized *tytleri*, *sparta* and *fruhstorferi* as subspecies of *louisa*. In this study, however, I treat *sparta* and *fruhstorferi* as full species, and *tytleri* as a subspecies of *sparta*.

**4-1. *Stichophthalma louisa louisa* (Wood-Mason, 1877) (Figs 15–17)**

*Thaumantis louisa* Wood-Mason, 1877, *Proc. Asiat. Soc. Beng.* **46**: 163.

*Stichophthalma louisa*: Marshall & Nicéville, 1883, *Butterflies India, Burma, Ceylon 1*: 311.

*Stichophthalma louisa louisa*: Talbot, 1947, *Fauna Br. India (Butterflies) 2* (Edn 2): 421.

*Stichophthalma louisa louisa*: Pinratana, 1983, *Butterflies Thailand 2*: 50, pl. 28, fig. 9a.

*Stichophthalma louisa louisa*: D'Abrera, 1984, *Butterflies Oriental Region 2*: 496, figs.

Diagnosis and variation. Upperside: Ground color of basal half of fore- and hindwings is light yellowish brown, apical margin is white. Black portion of outer margin is not developed, except at the wing tip. The shape of spots of row A approaches d in the spaces 1b and 2, and b in spaces 3 to 6 in many specimens; spots of row B are f; those of row C are d or e, and those of D are f. Spots of row A are produced outwards and connected with those of row B. Spots of row C are also produced outwards and connected with those of row D. The size of spots of rows A to D varies, but is rather small. Underside: Ground color is much paler than that of upperside. Round spots of spaces 2 to 6 of forewing are obscure. Round spots of spaces 3 to 5 of hindwing are small to obscure.

Forewing length. ♂, 54–59 mm, ♀, 66–67 mm.

Distribution. Southern Myanmar (Tenasserim), Western Thailand.

Specimens examined. THAILAND — Tak Province, Umphang : 8 ♂, 7. iv. 1994 (N) ; 2 ♀, 10. v. 1994 (N) ; 5 ♂ 5 ♀, vi. 1997 (N).

#### 4-2. *Stichophthalma louisa antonia* Rober, 1926

*Stichophthalma louisa antonia* Rober, 1926, *Ent. Rdsch.* **43** : 18, fig. 4.

*Stichophthalma louisa antonia* : Talbot, 1947, *Fauna Br. India* (Butterflies) **2** (Edn 2) : 424.

Remarks. Although this subspecies may not be particularly rare, I have had no opportunity to examine the material. The type locality of this subspecies (Moulmain, Myanmar) is near to that of the nominotypical subspecies (Umphang, Thailand). It is necessary to compare the material from those localities with each other.

#### 4-3. *Stichophthalma louisa ranohngensis* Okano, 1985 (Figs 18–21)

*Stichophthalma louisa ranohngensis* Okano, 1985, *Tokurana* **10** (2) : 1, figs 1, 2.

*Stichophthalma louisa siamensis* (part) : Pinratana, 1983, *Butterflies Thailand* **2** : 50, pl. 30, fig. 9b.

Diagnosis and variation. Upperside : Ground color of basal half of forewing is dark brown, and apical half is white. In hindwing, basal half is dark brown and apical half is light brown. Ground color of fore- and hindwings are darker in the female. Black part of outer margin is very weak excluding the wing tip. The spot shape of spaces 1b and 2 in row A is d and spots of spaces 3 to 6 are b in most cases ; the spot shape of row B is f ; that of row C is d, and that of row D is f. Spots of row A are produced outwards and connected with those of row B. Spots of row C are also connected with those of row D. The size of spots varies from small to large. Underside : Ground color is dark yellowish brown, and somewhat greenish in a few specimens. Round spots appearing in spaces 2–7 of forewing and spaces 2–6 of hindwing are developed.

Forewing length. ♂, 69–74 mm, ♀, 79–82 mm.

Distribution. Peninsular Thailand.

Specimens examined. THAILAND — Phang Nga Province, Khao Poa Tha : 2 ♂, iii. 1990 (N) ; 3 ♂ 3 ♀, iv. 1990 (N) ; 2 ♂ 2 ♀, 21. iii. 1992 (N).

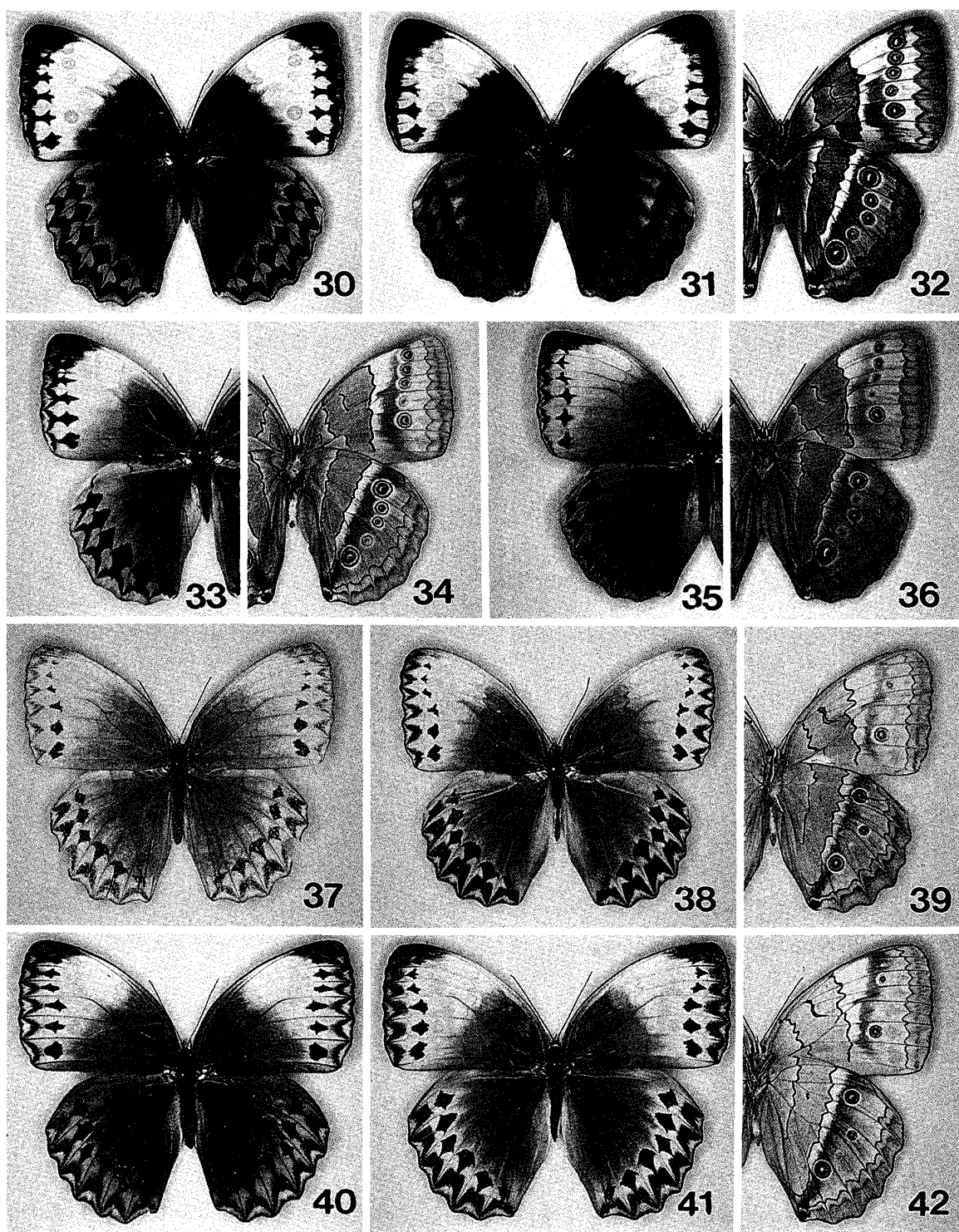
#### 4-4. *Stichophthalma louisa siamensis* Rothschild, 1916 (Figs 22, 23)

*Stichophthalma louisa siamensis* Rothschild, 1916, *Novit. zool.* **23** : 308.

*Stichophthalma louisa siamensis* (part) : Pinratana, 1983, *Butterflies Thailand* **2** : 50, pl. 29, fig. 96.

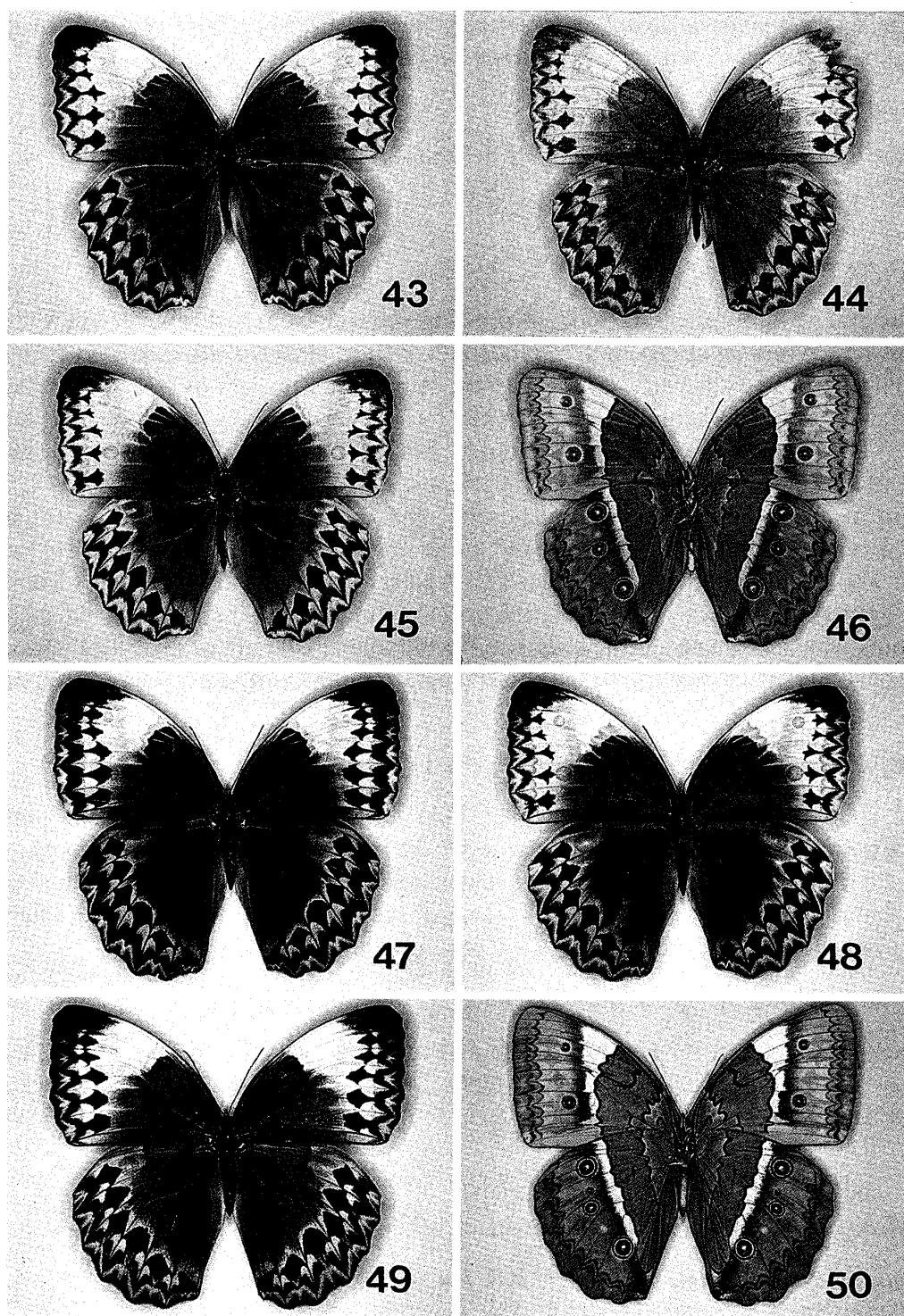
Diagnosis and variation. Upperside : Forewing ground color is brown in basal half and white in apical half. Basal half of hindwing is brown, and apical half is yellowish brown. Black portion of outer margin of forewing is weakly developed, so the margin shows the same coloration as ground color. The spot shape of row A is b ; spots of row B are f or g ; rows C and D are narrow, with the spots being b and d in row C and f and g in row D. Outer margin of each spot of rows A and C is produced, and connected with rows B and D respectively. Underside : Ground color is purplish brown. Of the round spots of spaces 2 to 6 of forewing, those in spaces 2, 5 and 6 are distinct and those in spaces 3 and 4 are obscure.





Figs 30-42. *Stichophthalma* spp. 30-32. *S. louisa* ssp., ♀, Mea Mo, Thailand (32: underside). 33-34. *S. louisa mathilda*, ♂, Sam Nua, Laos (34: underside). 35-36. *S. sparta evansi*, ♂, Putao, Myanmar. (36: underside). 37-39. *S. fruhstorferi*, ♂, Cuc Phuong, Vietnam (39: underside). 40-42. *S. fruhstorferi*, ♀, Cuc Phuong, Vietnam (42: underside).





Figs 43-50. *Stichophthalma uemurai* sp. nov. 43-44. Paratypes, ♂. 45-46. Holotype, ♂ (46: underside). 47-50. Paratypes, ♀ (49-50: allotype; 50: underside).

Of the round spots of spaces 2 to 6 of hindwing, those of spaces 2 and 6 are large and distinct, while the rests are small and obscure.

Remarks. The type locality of *S. louisa siamensis* is recorded as "Siam" in the original description. More detailed locality of the type specimen and distributional range of this

subspecies is so far not known. I tentatively regard the population of the Chanthaburi district as *siamensis* following the treatment by Pinratana (1983).

Distribution. Southeastern Thailand.

Specimens examined. THAILAND — Chanthaburi Province, Khao Soi Dao: 1 ♂, (I); (I); 1 ♂ 1 ♀, iii. 1986 (U).

#### 4-5. *Stichophthalma louisa* spp. (Figs 24–32)

Diagnosis and variation. Upperside: Forewing ground color is brown to dark brown in basal half and white in apical half. Basal half of hindwing is brown to dark brown, and apical half is yellowish brown. Black portion of the outer margin of forewing is developed, but coloration of outer margin of hindwing is the same as the ground color, without a black portion. The shape of spots of row C is d or e, that of row B is f and the spots are connected with the black portion of the outer margin in most specimens. The spots of row C are d or e, those of row D are f and large in most cases. Spots of row A are produced outwards and connected with the black portion of the outer margin. Spots of row C are produced outwards and connected with those of row D. Underside: Ground color varies from light to dark coloration. In a few specimens, the color is tinged with purplish or greenish. The round spots of spaces 2 to 6 of forewing vary from large to obscure or absent on spaces 3 and 4. The round spots of spaces 2 to 6 of hindwing are small to obscure except those on spaces 2 and 6.

Forewing length. ♂, 58–71 mm, ♀, 68–75 mm.

Remarks. Compared with the Khao Soi Dao (Southeastern Thailand) specimens, this population has much darker coloration and much more developed black spots. In this region extremely dark specimens, called “black *louisa*” (Figs 28, 29), have been known to occur. These extremely dark specimens seem not to be an aberrant form, since intermediate colored and marked specimens (Figs 26, 27) are present.

Distribution. Northern Thailand.

Specimens examined. THAILAND — Phrae Province, Wang Chin: 5 ♂ 4 ♀, 24. iv. 1989 (N); 3 ♂, iv. 1992 (N); 6 ♂ 1 ♀, 7. iv. 1995 (N); 3 ♂ 2 ♀, 20. iv. 1995 (N); 3 ♂ 2 ♀, vi. 1992 (N). Lampang Province, Mae Mo: 2 ♂ 4 ♀, 5. vi. 1993 (N); 1 ♂, 17. viii. 1994 (N).

#### 4-6. *Stichophthalma louisa mathilda* Janet, 1905 (Figs 33, 34)

*Stichophthalma louisa mathilda* Janet, 1905, *Bull. Soc. ent. Fr.* **1905**: 215.

*Stichophthalma louisa mathilda*: D'Abbrera, 1984, *Butterflies Oriental Region 2*: 498, fig.

Diagnosis and variation. Upperside: Forewing ground color is pale light brown in basal half, and yellowish white in apical half. Basal half of hindwing is light brown and apical half is yellowish brown. Black part of outer margin is relatively well developed at forewing tip, and tapering to the posterior portion. Outer margin of hindwing is the same as the ground color. The shape of spots of row A is b or d; spots of row B are f; those of row C are d, and inner margin of each spot slightly angulate. The shape of spots of row D is almost f. Spots of row A are produced outwards and connected with those of row B, and spots of row C are also connected with those of row D. Underside: Wing ground color is

light brown and shows slight variation from light to dark. The round spots of spaces 2 to 6 of forewing are relatively distinct and the spot of space 3 is obscure in a few specimens. The round spots of spaces 2 to 6 of hindwing are relatively distinct, but in some cases, that of space 3 is obscure.

Forewing length. ♂, 59–61 mm.

Distribution : Laos, Northern Vietnam.

Specimens examined. LAOS — Houa Phan Province, Sam Nua : 3 ♂, 15. vi. 1991 (N).  
Xiang Khoang Province : 3 ♂, 17. vi. 1996 (N).

## 5. *Stichophthalma sparta* Nicéville, 1894

In 1996, two males of this genus were taken by Mr Prasopsuk Sukkit at near Putao, northern Myanmar. I regarded them as *S. sparta evansi* on morphological features. However, this locality is situated in the middle between the type locality of *evansi* (Sadon) and that of *S. sparta tytleri* (Manipur). Further information is needed on the geographical variation and distribution of *sparta*, *evansi* and *tytleri* in order to work out exact subspecific relationships among them. The type specimen of *S. sparta tytleri* is shown in Fig. 56. The type specimens of *S. wilhelma* which was first described as a subspecies of *S. howqua* and later synonymized with *tytleri* are also shown in Figs 57 and 58.

### 5-1. *Stichophthalma sparta evansi* Tytler, 1928 (Figs 35, 36)

*Stichophthalma sparta evansi* Tytler, 1928, *Proc. ent. Soc. Lond.* **3** : 16.

*Stichophthalma sparta evansi* : Talbot, 1947, *Fauna Br. India* (Butterflies) **2** (Edn 2) : 424.

*Stichophthalma sparta evansi* : D'Abrera, 1984, *Butterflies Oriental Region* **2** : 498, fig.

Diagnosis and variation. Upperside : Ground color of fore- and hindwings is brown in basal half and yellowish white in apical half. Black part of outer margin is not developed except the forewing tip. The shape of spots of row A is b ; spots of row B are f and situated at the outer portion ; those of row C are e ; those of row D are f. The spots of rows A and B are not connected in spaces 1b and 2, and slightly connected in spaces 3 to 5. Spots of row C are produced outwards and connected with those of row D. Underside : Ground color is yellowish. The round spots of spaces 2 to 6 of the forewing are obscure except that of space 2. The round spots of spaces 2 to 6 of the hindwing are relatively distinct except those of spaces 3 and 5 which are obscure.

Forewing length. ♂, 58–61 mm.

Distribution. Northern Myanmar.

Specimens examined. MYANMAR — Kachin States, Putao : 2 ♂, 25. v. 1996 (N).

### 5-2. *Stichophthalma sparta tytleri* Rothschild, 1918

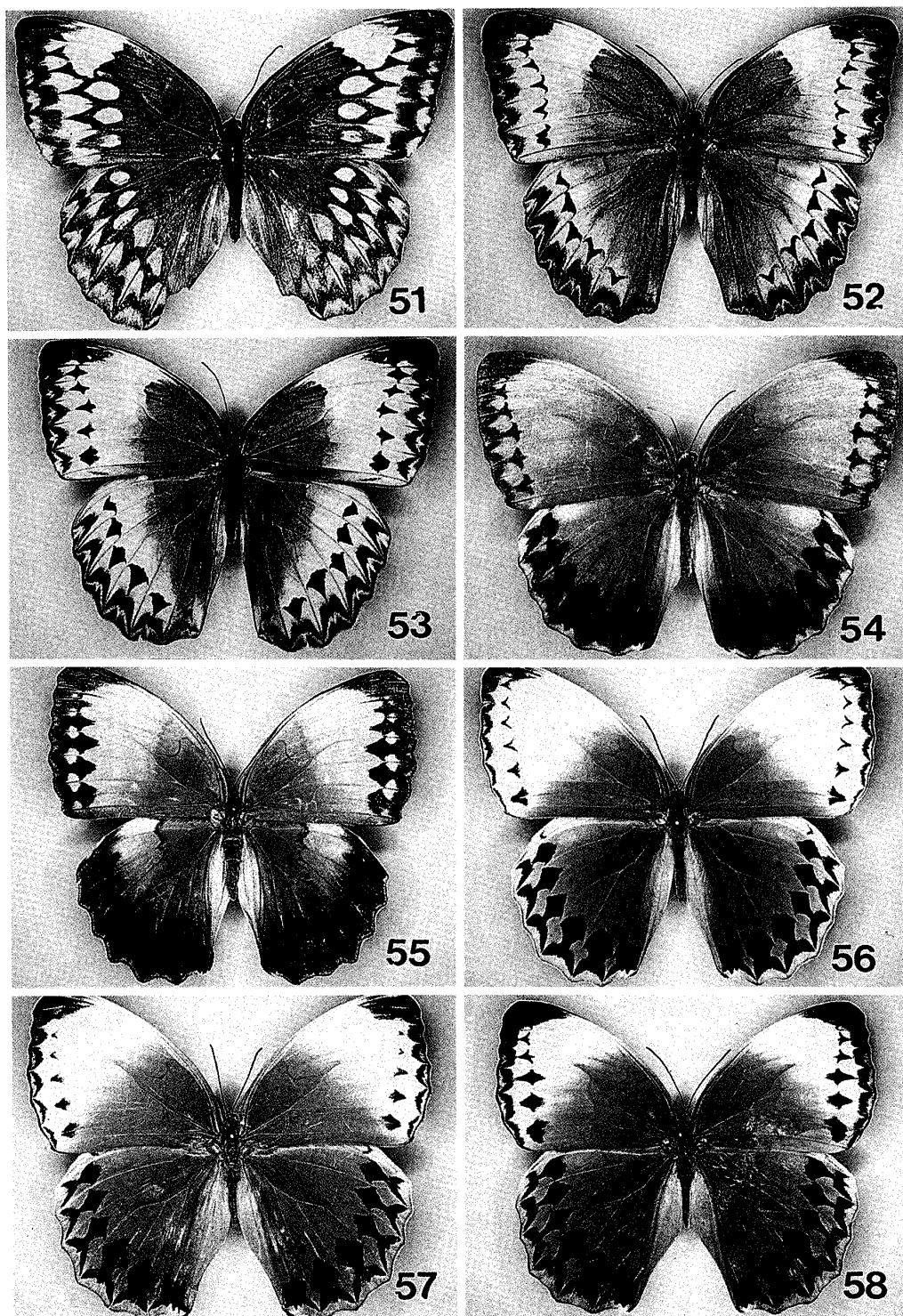
*Stichophthalma tytleri* Rothschild, 1918, *Novit. zool.* **25** : 310.

*Stichophthalma sparta tytleri* : Evans, 1932, *Ident. Ind. Butterflies* (Edn 2) : 132.

*Stichophthalma louisa tytleri* : Talbot, 1947, *Fauna Br. India* (Butterflies) **2** (Edn 2) : 422.

*Stichophthalma howqua wilhelma* Rober, 1926, *Ent. Rdsch.* **43** : 22, figs 5, 6.

Distribution. Northeastern India (Manipur, Assam).



Figs 51–58. Type specimens of *Stichophthalma* spp. preserved in BMNH. 51. *Stichophthalma godfreyi*, holotype ♂. 52. *Thaumantis cambodia*, holotype ♀. 53. *Stichophthalma cambodia editha*, syntype ♀. 54. *Stichophthalma howqua tonkiniana*, syntype ♂. 55. *Ditto*, syntype ♀. 56. *Stichophthalma tytleri*, syntype ♂. 57. *Stichophthalma howqua wilhelma*, syntype ♂. 58. *Ditto*, syntype ♀.

Specimens examined. INDIA — Manipur, Sebong: Syntype of *tyleri*, 1 ♂ (Fig. 56), labeled "Sebong, Manipur, India", 13. iv (BMNH). Assam: Syntypes of *wilhelma*, 1 ♂ (Fig. 57) 1 ♀ (Fig. 58), labeled "Assam", 26. iv (BMNH).

## 6. *Stichophthalma fruhstorferi* Rober, 1903 (Figs 37–42)

*Stichophthalma fruhstorferi* Rober, 1903, *Societas ent.* 17: 153.

*Stichophthalma louisa fruhstorferi*: Talbot, 1947, *Fauna Br. India* (Butterflies) 2 (Edn 2): 424.

*Stichophthalma fruhstorferi*: D'Abrera, 1984, *Butterflies Oriental Region* 2: 496, fig.

Diagnosis and variation. Upperside: Basal half of fore- and hindwings of male is yellowish brown, and apical half is yellowish white. In the female, basal half of wings is brown, and apical half is white to yellowish white. Black portion of outer margin is thin in the male, and thin but developed at tip in the female. Shape of row A is d in spaces 1b and 2, a or c in spaces 3–5 in many individuals; spots of row B are f or g, and large; those of row C are d; those of row D are f or g. Row A is almost not connected with row B in the male and the spots are not connected in spaces 1b and 2, but slightly connected in spaces 3–5 in the female. Spots of row C are produced outwards and weakly connected with those of row D in both sexes. In some female specimens, rows B and D are much developed, and their outer margin is much darker. Underside: Wing ground color is yellowish brown in the male, and blackish brown tinged with green in the female. The ground color varies slightly from light to dark. Round spots are present on spaces 2 and 5 of forewing and spaces 2, 4 and 6 of hindwing in the male. The spot of space 2 of forewing is obscure or absent in some specimens. In the female, the round spots appear on spaces 2 and 5 of forewing and spaces 2–6 of hindwing, the spots on spaces 3 and 5 of hindwing being small to obscure.

Forewing length. ♂, 56–61 mm, ♀, 64–70 mm.

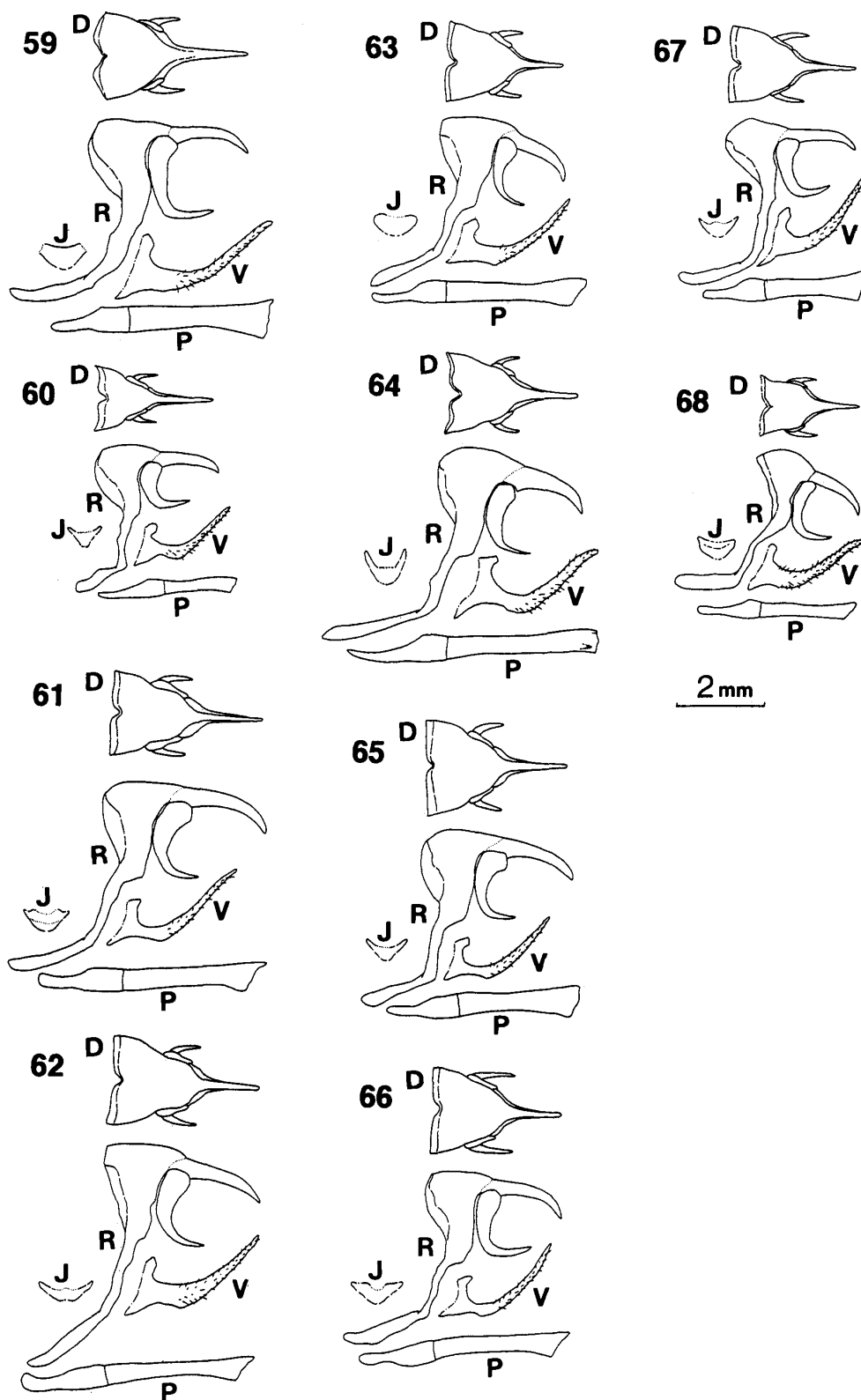
Distribution. Northern Vietnam.

Specimens examined. VIETNAM — Ha Nam Ninh Province, Cuc Phuong: 5 ♂ 12 ♀, 13–16. vii. 1992 (N); 2 ♀, 23–25. vi. 1995 (N); 1 ♂, 27–31. v. 1996 (N); 9 ♂ 10 ♀, 18–21. vi. 1997 (N).

## 7. *Stichophthalma uemurai* sp. nov. (Figs 43–50)

Male (Figs 45–47). Wing shape: Anterior margin of fore- and hindwings gently convex; outer margin evenly straight, weakly waved. Forewing with rounded tip and straight posterior margin. Hindwing with rounded outer margin; posterior margin straight, not forming a distinct angle, with a shallow concavity at space 1c.

Upperside: Ground color of basal half of fore- and hindwings bluish gray, with coarse brownish pubescences. Apical half of forewing white, somewhat bluish; white scales present around veins. Apical half of hindwing bluish gray, tinged with purple; tip and outer margin emarginated by a black band; the band thin at posterior portion. The shape of spots of row A is d in space 1b, b in spaces 2–5; spots of row B are f or g; those of row C are d; those of row D are g. Spots of rows A and B are produced outwards and connected with rows B and C respectively. Underside: Ground color of fore- and hindwings yellowish brown. Two longitudinal, zigzag shaped brownish lines present at basal 1/5 and 1/2. Color between these lines slightly darker. Outer line defining inside a median white belt, which is broadest in spaces 5 and 6 and gradually narrowed to posterior



Figs 59–68. Male genitalia of *Stichophthalma* spp. 59. *S. godfreyi*. 60. *S. cambodia*. 61. *S. howqua tonkiniana*. 62. *S. louisa ranohngensis*. 63. *S. louisa louisa*. 64. *S. louisa* ssp. 65. *S. louisa mathilda*. 66. *S. sparta evansi*. 67. *S. fruhstorferi*. 68. *S. uemurai* (R: ring, D: dorsum, V: valva, P: phallus, J: juxta).



portion in forewing; in hindwing, this belt present from spaces 2 to 7. The white belt diffusely shadowed outside with dark yellowish brown, and a pale yellowish brown belt beyond the shade in forewing. Submarginal area with two thin and irregular dark yellowish brown lines. Hindwing as in forewing, excluding the outer shade of white belt, which is dark yellowish brown. In spaces 2-5 of forewing and spaces 2-6 of hindwing, the round spots are white-ringed orange brown with a small white point at center and with black margin. The spots are relatively large and distinct in spaces 2 and 5 in forewing and in spaces 2, 4, 6 in hindwing, the rest being small to obscure. Basal portion of discoidal cell with a small dark brown spot. Space between anterior 2/3 from discoidal cell and anterior margin scattered with dark brown scales. Posterior portion of hindwing with a small black spot.

Forewing length. 55-58 mm.

Genitalia. Dorsal margin of tegumen convex in lateral view; uncus slightly turned to venter with an acute apical angle; gnathos large and sickle-shaped, basal 1/3 turned to venter, and apical 2/3 turned to dorsum in lateral view; saccus slightly longer than tegumen; juxta large, half-circular and flat; valva thin, convex, with bristle setae at inner portion; phallus relatively thin, 2/5 the length of saccus, with parallel sides, but even narrower at the midlength.

Female (Figs 44, 48-50). Wing shape as in male. Upperside: Ground color of fore- and hindwings darker than in the male. White band of apical portion of forewing weakly developed in spaces 1 and 2, covered with dark brown scales. The shape of spots of submarginal area as in the male, but much developed. Underside as in the male.

Forewing length. 61-69 mm.

Variation. The ground color of the male wing upperside varies from brown to dark bluish gray.

Holotype. ♂, Bao Loc, Lam Dong Province, Vietnam, 16-19. iii. 1997, M. Nishimura leg. Paratypes. 14 ♂ 7 ♀ (including allotype), the same data as holotype.

Type depository. The holotype and some paratypes will be deposited in the BMNH collection, London.

Remarks. The genus *Stichophthalma* contains some isolated species in the south of Indo-China: *godfreyi* from Dawna Rang, east part to Phuket Range, and *cambodia* in the Kravanh Range, which is located between the two. It is considered that this new species is also geographically isolated at Annam Range, east part of southern Indo-China. *S. uemurai* has a unique coloration among those Indo-Chinese *Stichophthalma* species. The spot pattern of the upperside of the wings resembles that of *fruhstorferi*, but the underside color pattern resembles *cambodia*. The gnathos and saccus of the male genitalia show intermediate shape between *fruhstorferi* and *cambodia*. This new species resembles *fruhstorferi* in coloration in general, but it is easily separated from it as follows; 1) anterior margin of forewing straight (even convex in *fruhstorferi*), 2) wing ground color of anterior half bluish grey (yellowish brown to brown in *fruhstorferi*), 3) spot of subcosta highly developed (smaller in *fruhstorferi*), 4) dorsal margin of tegumen convex (very weakly convex or almost straight in *fruhstorferi*), 5) phallus thicker (thinner in *fruhstorferi*).

Etymology. The specific epithet is named after Mr Yoshinobu Uémura who is a taxonomist of Satyrinae.

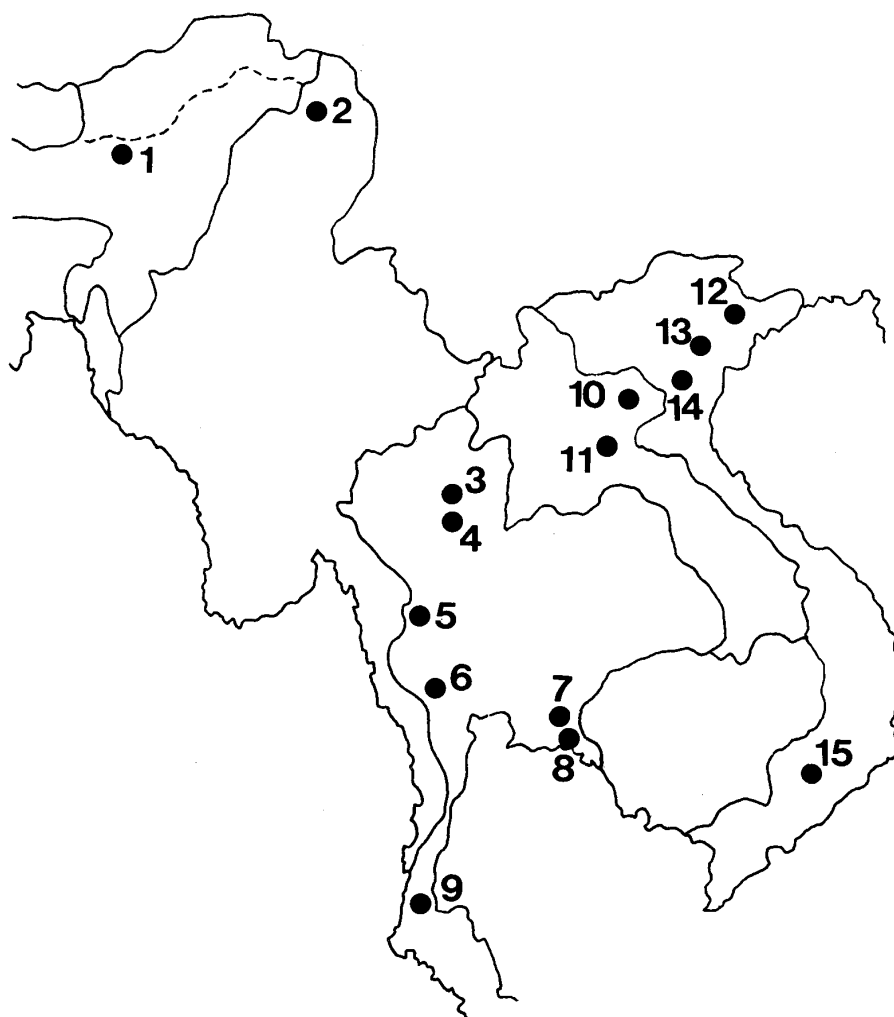


Fig. 69. Collecting sites of *Stichophthalma*. 1. Assam. 2. Putao. 3. Mae Mo. 4. Wang Chin. 5. Umphang. 6. Kanchanaburi. 7. Khao Soi Dao. 8. Khao Sa Bap. 9. Khao Poa Tha. 10. Sam Nua. 11. Xiangkhoang. 12. Than Moi. 13. Tam Dao. 14. Cuc Phuong. 15. Bao Loc.

### Male genitalia of *Stichophthalma*

The male genitalia of seven species of this genus are compared (Figs 59–68). No large morphological differences among species were recognized, so that several general shapes for the genus level were picked up. The diagnosis is as follows: tegumen smooth and convex dorsally; uncus long, turned to venter, with an acute posterior angle; gnathos sickle-shaped, basal portion turned to venter and apical portion convex and turned to dorsum; juxta relatively large, half-circular or U-shaped; valva thin, convex, turned to dorsum, with bristles at inner portion; saccus weakly convex; phallus straight and slightly broadened at posterior portion, and length subequal to saccus+tegumen+uncus. Phallus shows slight differences among the species.

The tegumen of *uemurai* is the most strongly convex dorsally among the seven species. The shape of the tegumen is subject to geographical variations among the *louisa* subspecies. The population of Wang Chin, Thailand, has the broadest tegumen, while ssp. *ranohngensis* has a relatively flat one. The uncus of *howqua* is most developed. The gnathos of *godfreyi* is

largest and longest and forms a right angle. *S. cambodia* has the smallest gnathos. The sacci of *godfreyi*, *howqua* and *louisa* (excluding *mathilda*) are long, and that of *cambodia* is smallest, while those of *sparta* and *uemurai* are intermediate in size. The shape of the juxta shows variations among individuals, so it would not be available for separation of species or subspecies. The valva is thin and long, and covered with bristles at the inner portion of the posterior 2/3 in all the examined species. A slight difference is recognized at the convexity of the dorsum of the valva at species level.

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### 摘 要

インドシナ産 *Stichophthalma* 属とその 1 新種の記載 (鱗翅目, タテハチョウ科, ワモンチョウ亜科) (西村正賢)

インドシナに分布する *Stichophthalma* 属に含まれる *godfreyi*, *cambodia*, *howqua*, *louisa*, *sparta*, *fruhstorferi* の分布資料を提示するとともに地理的変異についての紹介を行なった。また、大英自然史博物館に所蔵されている *S. godfreyi*, *S. cambodia cambodia*, *S. cambodia editha*, *S. howqua tonkiniana*, *S.*

*louisia tyleri*, そして *S. sparta wilhelma* の模式標本を図示した. 模式標本, 被検資料を比較・検討した結果, *S. cambodia editha* は *S. cambodia* の原名亜種に含まれることが判明し, 同物異名 (synonym) として処理をした.

また, 各種の雄ゲニタリアを図示し, 比較を行なった. 大きな種差は認められず, 基本的な形態は同様であった. 比較的広域に分布し, 各地ごとに翅斑の変異がみられる *S. lousia* は雄交尾器にも微差がみられた.

*Stichophthalma uemurai* sp. nov.

南ベトナムで発見された 1 新種の記載を行なった. 翅面は特異な色彩をもち, 地理的にも隔離された分布をすることから新種と判断した. 翅表は *fruhstorferi*, 翅裏は *cambodia* に近似し, 雄交尾器の gnathos, saccus は両種の間隔的な形態をしている. 全体的に類似する *fruhstorferi* との区別点は以下のとおりである. 1) 前翅外縁は直線的 (*fruhstorferi* では丸みが強い), 2) 翅表基半の地色は普通青灰色 (*fruhstorferi* では黄褐色から褐色), 3) 亜外縁の斑紋は発達する (*fruhstorferi* では比較的小型), 4) tegumen は背方に丸く膨らむ (*fruhstorferi* ではほとんど平ら), 5) phallus はわずかに太い (*fruhstorferi* ではわずかに細い). 分布: ベトナム南部.

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